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BEFORE THE BOARD OF PATENT APPEALS

AND INTERFERENCES

Application Number: 10/757,757
Filing Date: January 14, 2004
Appellant(s): MADDOCKS ET AL.

Dan C. Hu

For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 09/16/2009 appealing from the Office action mailed 04/17/2009.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

Suzuki et al.	US 7,003,567	February 21, 2006
Blumenau	US 6,839,747	January 04, 2005

Dimitroff	US 6,212,606	April 03, 2001
Yung et al.	US 2004/0032430	Published July 6, 2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 12-17, 25, 26, 28, 32, and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenau (6,839,747) and Dimitroff, (US 6,212,606) and further in view of Suzuki et al., (US 7,003,567).

The claims and only the claims form the metes and bounds of the invention. "Office personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541,550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, l 45-48; p 2100-9, c 1, l 1-4). The Examiner has full latitude to interpret each claim in the broadest reasonable sense. The Examiner will reference prior art using terminology familiar to one of ordinary skill in the

art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

As per claims 12, 13, and 35, Blumenau teaches a method comprising: receiving, by an interface manager (34, Fig. 3/6) in a storage system, device information from a plurality of interface controllers operatively associated with storage system devices in the storage system, the device information (device controllers/disk adapter "implemented using a programmed processor or custom hardware design", 36a, 36b, 36c, 36d, col. 8, line 62-col. 9, lines 1-16) relating to the storage system devices (38a-38d, col. 8, line 62-col. 9, lines 1-16, note claim 35, using LUNs);

generating, by the interface manager, a logical map identifying at least some of the storage system devices based on the device information; assigning, by the interface manager, the logical map (of the devices connected on the network and each devices share-ability) to at least one host separate from the interface manager to enable access by the at least one host of the storage system device; obviously monitoring for a change in a state of the storage system devices; and in response to the change, modifying the logical map.

Blumenau teaches a graphical user interface (GUI) that provides a user with the ability to graphically view the availability of data storage volumes on the network and further has the ability to assign the data storage volumes to different hosts in a storage network. The GUI also allows a user to graphically view the topology of the network, such as hosts, storage systems, and storage system disk adapters. Advantageously,

the GUI permits the user to view, manage, reassign, and modify the topology of the storage volumes on the network.

Further, Blumenau discloses a storage network having a user input to deny and grant access permissions for the host to data access drivers, and types of transfer robotics for read or write operations. (Blumenau: abstract; Column 17, lines 44- 60 – col. 18, lines 1-60) Blumenau specifically teaches the use of the GUI to identify to the user at least some of the storage system devices on the network, but not specifically identifying data access disk drives or types of transfer robotics based on device information.

Nonetheless, Dimitroff discloses security and access parameters (Col. 3, Lines 15-54, Col. 4, Lines 6- 67, Col. 5, Lines 1-60) wherein Dimitroff specifically teaches identifying the storage devices (tape library, hard drives, optical drives, multi-media drive, etc, col. 2, lines 45-65, Appellant's claim of data access drives and transfer robotics) on the storage area network based on device information and to receive information about the state of the storage device. (Dimitroff, col. 3, lines 66-col. 4, lines 1-35). The Examiner believes Dimitroff teaches that the identification of the devices (i.e. aggregating configuration, security, and access parameters information for each identified device, claim 13) on the storage area network.

The Examiner believes Dimitroff's process of gathering information from the devices implicitly describes the formation of a logical map (e.g. address/line of a communication channel/table/link) in order to keep track of a large number of connected devices. Further, one having ordinary skill would understand that if the devices are able to communicate, a logical map (e.g. address/line of a communication channel/table/link) could be derived from information gathered. Additionally, one of ordinary skill would obviously realize that uniquely identifying (mapping) resources (storage devices) would be more efficient.

Dimitroff teaches giving a user via a Workstation/Host, 104/106, Fig. 1 a map of all the devices on a storage area network, 108, col. 2, lines 19-55, col. 3, lines 15-54, Figs. 1, 2, wherein the logical map of the storage area network is used for enabling and disabling user access to devices on the storage area network.

Both references (Blumenau and Dimitroff) taught features that were directed to analogous art and they were directed to the same field of endeavor, such as an information storage system and more particularly to a method and apparatus for managing storage in a storage system via logical maps. It would have been obvious to one of ordinary skill in the art at the time the invention was made, to implement into the GUI system of Blumenau with the teachings of Dimitroff in order to show the security and access parameters in the graphical user interface of Blumenau.

One would readily recognize that it would have been motivation for Blumenau to show the security and access parameters that would give the user recognition of areas on the logical map that are allowed to be viewed, managed, reassigned, or modified.

Furthermore, Examiner believes that Blumenau and Dimitroff (col. 2, lines 56-col. 3, lines 1-22) would obviously monitor the devices connected to the system in order to further modify the logical map. Nonetheless, Suzuki clearly discloses frequently polling the connected devices on a storage network (Fig. 8a/8b) and displaying and monitoring a change state of a selected device. (Suzuki, col. 2, lines 25-col. 6, lines 1-55) Further, Suzuki teaches gathering configuration information of each connected device on the storage network and showing on a GUI the map of the storage network. (Suzuki, col. 1, lines 33-54)

The references (Blumenau and Dimitroff and Suzuki) taught features that were directed to analogous art and they were directed to the same field of endeavor, such as an information storage system and more particularly to a method and apparatus for managing storage devices in a storage system via logical maps. It would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify the system of Blumenau-Dimitroff with the teachings of Suzuki to frequently poll and monitor a change state of a selected device with a graphical user interface. One would readily recognize that it would have been motivation for Blumenau-Dimitroff to monitor the change of activities of the connected devices via frequent polling because doing so

would herein and further expand the display flexibility for modifying the configurations of the storage network via a graphical user interface. The claim would have been obvious because a person of ordinary skill has good reason to pursue the known options with his or her technical grasp. This leads to the anticipated success and is the product not of innovation but of ordinary skill and common sense.

As per claims 14-17, Dimitroff teaches propagating management commands (claim 14), routing and formatting transactions (claim 15), and scheduling access for the host and device controllers (claim 16 and 17) via a plurality of distinct parameters of the storage devices wherein the distinct parameters comprises a security parametric, an access parametric, an availability parametric, an ownership parametric, and a management parametric. (Col. 2, lines 57- Col. 3, Lines 34-54, Col. 4, Lines 6- 67, Col. 5, Lines 1-60)

As per claims 25, 28, 32, 36, 39-41, Blumenau teaches an interface manager (34, Fig. 3/6) for use in a storage system, comprising: at least a first port (Fig. 3) to communicate with controllers (device controllers/disk adapter "implemented using a programmed processor or custom hardware design", 36a, 36b, 36c, 36d, col. 8, lines 62-col. 9, lines 1-16) operatively associated with storage system devices (38a-38d, col. 8, lines 62-col. 9, lines 1-16) of the storage system; at least one network port (Fig. 3 or Fig.6, obvious network port, 0 or 1, col. 6, lines 41-45) to communicate with a host (12,

14, Fig. 1c) external to the storage system; and at least one control (processor, 80, of Fig. 3) element to: receive device information from the controllers, generate at least one logical map (of the devices connected on the network and each devices share-ability) based on the received device information, and assign the at least one logical map to the host to allow the host to access one or more of the storage system devices.

Blumenau teaches a graphical user interface (GUI) that provides a user with the ability to graphically view the availability of data storage volumes on the network and further has the ability to assign the data storage volumes to different hosts in a storage network. The GUI also allows a user to graphically view the topology of the network, such as hosts, storage systems, and storage system disk adapters. Advantageously, the GUI permits the user to view, manage, reassign, and modify the logical map of the storage volumes on the network. (Note claims 32 and 36)

Further, Blumenau discloses a storage network having a user input to deny and grant access permissions for the host to data access drivers, and types of transfer robotics. (Blumenau: abstract; Column 17, Lines 44- 60) Blumenau specifically teaches the use of the GUI to identify to the user at least some of the storage system devices on the network, but not specifically identifying data access drivers or types of transfer robotics based on device information. Wherein that information includes at least one of numbers and types of the storage system devices operatively associated with the controllers, and capacities of the storage system devices.

Nonetheless, Dimitroff discloses security and access parameters (Col. 3, Lines 15-54, Col. 4, Lines 6- 67, Col. 5, Lines 1-60) wherein Dimitroff specifically teaches identifying the devices on the storage area network based on device information and to receive information about the state of the device. (Dimitroff, col. 3, lines 66-col. 4, lines 1-35). The Examiner believes Dimitroff teaches that the identification of the devices (i.e. aggregating configuration, security, and access parameters information for each identified device) on the storage area network.

Further, Dimitroff clearly discloses wherein the received device information includes at least one of numbers and types of storage system devices (tape library, hard drives, optical drives, multi-media drive, etc, col. 2, lines 45-65, col. 3, lines 15-54) connected to the controllers, and capacities of storage system (Dimitroff discloses "The intelligent controllers 114 use a protocol (e.g., in-band communication) to communicate with the attached storage unit 118…. The capacity availability capability enables the intelligent controller 114 to determine the amount of media currently available in the storage unit 118. And, the intelligent controller 114 having the performance availability capability is able to dynamically control the data transfer rate or data stream control such that other hosts 106 contending for access to the storage unit 118 are not starved", col. 5, lines 45-67) devices in the storage system. (Note claim 39 and 40) The Examiner believes Dimitroff's process of gathering information from the devices

implicitly describes the formation of a logical map (e.g. address/line of a communication channel as well as the capacities of the storage system).

Further, one having ordinary skill would understand that if the host and storage devices are able to communicate, a logical map (e.g. address/line of a communication channel/table/link) between the host and the storage devices has been established. Additionally, one of ordinary skill would obviously realize that uniquely identifying (mapping) resources (storage devices) would be more efficient.

As noted above, Dimitroff teaches giving a user via a Workstation/Host, 104/106, Fig. 1 a map of all the devices on a storage area network, 108, col. 2, lines 19-55, col. 3, lines 15-54, Figs. 1, 2, wherein the logical map of the storage area network is used for enabling and disabling user access (Note claims 32 and 36) to devices on the storage area network.

Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Blumenau with the teachings of Dimitroff to provide device information includes at least one of numbers and types of storage system devices (Dimitroff, col. 2, lines 19 - col. 3, lines 1 -54) connected to the controllers, and capacities of storage system (Dimitroff, col. 5, lines 45-67) devices in the storage system.

One would readily recognize that it would have been motivation for Blumenau to monitor the capacity availability of the connected storage devices and the performance capabilities of the connected storage devices because doing so would allow for the connected storage devices to be dynamically controlled. (Dimitroff, col. 5, lines 45-67) Further, one would readily recognize that it would have been motivation for Blumenau to show the security and access parameters that would give the user recognition of areas on the logical map that are allowed to be viewed, managed, reassigned, or modified.

As noted in the rejections above, the Examiner also believes that Blumenau and Dimitroff (col. 2, lines 56-col. 3, lines 1-22) would obviously monitor the devices connected to the system in order to further modify the logical map. Nonetheless, Suzuki clearly discloses frequently polling the connected devices on a storage network (Fig. 8a/8b) and displaying and monitoring a change state of a selected device. (Suzuki, col. 3, lines 40-col. 5, lines 1-42, regarding the monitoring a change state of a selected device, in view of Blumenau-Dimitroff- Suzuki) Please note the rejections above regarding the combination of the references of Blumenau, Dimitroff, and Suzuki as to a method and apparatus for managing storage devices in a storage system via logical maps.

As per claim 33, please note rejection for claims 12 and 25 with Blumenau-Dimitroff and in view of Suzuki. Specifically, Suzuki teaches monitoring a change state of a selected device. (col. 3, lines 40-col. 5, lines 1-42)

Claims 38 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenau (6,839,747) and Dimitroff, (US 6,212,606) and further in view of Suzuki et al., (US 7,003,567) and Applicant's Admission of Prior Art.

As per claims 38 and 42, Blumenau teaches a graphical user interface (GUI) that provides a user with the ability to graphically view the availability of data storage volumes on the network and further has the ability to assign the data storage volumes to different hosts in a storage network. Advantageously, the GUI permits the user to view, manage, reassign, and modify the logical map of the storage volumes on the network, therein Blumenau teach wherein the state of the storage system devices includes one or more of removing a storage system device i.e. being taken offline.

Dimitroff also teaches wherein the state of the storage system devices includes one or more of removing a storage system device i.e. being taken offline.

Further, Suzuki obviously teaches wherein a state of a communication line between the connected devices is monitored and if one of the storage devices is no longer connected that this action is obviously automatically updated on the logical map of the connected devices. (Suzuki, col. 3, lines 40-col. 6, lines 1-55)

Nonetheless, noting that a physical layout has changed (e.g., a drive is taken offline) has been discloses in AAPA. (See [0004] of Appellant's Specification)

Therein, the references (Blumenau and Dimitroff and Suzuki and AAPA) taught features that were directed to analogous art and they were directed to the same field of endeavor, such as an information storage system and more particularly to a method and apparatus for managing storage in a storage system via logical maps.

It would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify the system of Blumenau-Dimitroff-Suzuki that in combination teach automatically updating a logical map of devices connected on a network with the teachings of AAPA to note if a physical layout on a storage network has changed (e.g. a drive is taken offline) with specifically the Suzuki embodiment that frequently polls and monitor a change state of a selected device with a graphical user interface. One would readily recognize that it would have been motivation for Blumenau-Dimitroff-Suzuki to monitor the change of activities of the connected devices that includes if a drive is taken offline and to display the modified configurations of the storage network via a graphical user interface.

Claims 21, 22, 24, 27-31, and 41, are rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenau (6,839,747) in view of Dimitroff, (US 6,212,606) and in further view of and Yung et al., (US 2004/0032430A1).

As per claims 21, 22, 24, 27-31, and 37, Blumenau-Dimitroff teaches a storage network comprising: an automated storage system including data access drives and transfer robotics, wherein the data access drives are to access data on data storage media, and wherein the transfer robotics are to transfer data storage media in the automated storage system; the interface manager to generate a logical map of the automated storage system based on aggregating configuration information for the data access drives; and a device manager to communicate with the plurality of interface controllers. (Note rejections above)

Further, Blumenau-Dimitroff teach an external system manager (34, Blumenau), which communicates with two or more disk adapter controllers (Dimitroff: device controllers, 112, 114, Fig.2, col. 2, lines 35- 55 operatively associated with storage system devices,118, Fig. 1of the storage system, Blumenau: device controllers/disk adapter "implemented using a programmed processor or custom hardware design", 36a, 36b, 36c, 36d, col. 8, lines 62-col. 9, lines 1-16 operatively associated with storage system devices 38a-38d, col. 8, lines 62-col. 9, lines 1-16 of the storage system) that gathers and manages the access data and the configuration data relating to the physical drives and logical volumes of each disk adapter controller. Therefore, the combined teaching of Blumenau and Dimitroff demonstrate the use of a logical map to facilitate access to allow access to the data access drives and the transfer robotics.

However, Blumenau and Dimitroff are silent in respect to the at least one control element including a management application program interface (API) to generate management commands for the controllers and wherein the management API schedules access to devices on a network.

Nonetheless, Yung teaches a plurality of interface controllers operatively associated with the data access for devices on a network (Yung, (0008, 0011- 0014, and 0037); an interface manager communicatively coupled to each of the plurality of interface controllers, a storage system based on aggregating configuration information for the devices on the network. (Yung, 0011- 0014, 0055, and 0071, 0072) and a pipeline (0049, 0050) provided as computer readable program code in computer-readable storage at the interface manager, the pipeline including: a command router to format transactions for the interface controllers; a management application program interface (API) (0037 and 0094) to generate management commands for the plurality of interface controllers; and a device manager to communicate with the plurality of interface controllers.

Therein, the references (Blumenau and Dimitroff and Yang) taught features that were directed to analogous art and they were directed to the same field of endeavor, such as an information storage system and more particularly to a method and apparatus for managing devices on a network.

It would have been obvious to one of ordinary skill at the time the invention was made that to implement Yang's pipeline configuration and utilizing an API to generate management commands into Blumenau-Dimitroff's storage network system, because, Yung seeks to address the problem of a plurality of interface controllers operatively associated with devices on the network (Yung, (0008, 0011- 0014, and 0037) with an interface manager that communicatively couples to each of the plurality of interface controllers for devices on the network (0011- 0014, 0055, and 0071,0072) and a pipeline (0049, 0050). Therein, the combination of Blumenau-Dimitroff with Yang would provide an improved communication with network devices using Yang's common user interface.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenau (6,839,747) in view of Dimitroff, (US 6,212,606) *and Suzuki et al., (US 7,003,567)* and in further view of and Yung et al., (US 2004/0032430A1).

As per claim 18, Blumenau-Dimitroff-Suzuki and in view of Yung teaches identifying the storage system devices in the logical map as logical units (LUNs), please note the rejections for claims 12 and 31 above.

(10) Response to Argument

Regarding Claim 12, Appellant argues on pg. 8 of the Appeal Brief:

> Contrary to the assertion by the Examiner, the parametrics described in Dimitroff (including the security and access parametrics) do not "perform the same action as a logical map." *See id.* at 4. Even more specifically, there is no hint by Dimitroff that these parametrics are used to generate a logical map identifying at least some of the storage system devices. As specifically explained by Dimitroff, the parametrics are used in classifying the shared level of a particular storage unit. Dimitroff, 1:44-48. As further explained by Dimitroff, establishing the standardized shared level for each storage unit allows the specific capabilities of a corresponding storage unit to be determined. *Id.,* 1:25-29. Enabling a host to use the standardized shared levels to identify a shareability characteristic of each storage unit, as discussed in Dimitroff, is different from generating a logical map identifying at least some of the storage system devices based on received device information from a plurality of interface controllers operatively associated with storage system devices in a storage system. In view of the incorrect assertion by the Examiner regarding the teachings of Dimitroff, it is respectfully submitted that the obviousness rejection is defective for at least this reason, since the hypothetical combination of the references would not have led to the claimed subject matter.

Appellant is directed to Dimitroff (Col. 2, Lines 56 – col. 3, lines 1-54) wherein Dimitroff discloses security and access parameters that teaches identifying (i.e. mapping or establishing a link to) the devices on the storage area network based on device information and to receive information about the state of the device. (Dimitroff, col. 3, lines 66-col. 4, lines 1-35 Col. 4, Lines 6- 67, Col. 5, Lines 1-60).

Appellant broadly argues that Dimitroff does not “perform the same action as a logical map,” however; a logical map in Appellant’s claim does not have an explicit definition.

Nowhere in Dimitroff does the word "logical map" appear; however, the Office believes Dimitroff's process of gathering information from the devices implicitly describes the formation of a logical map (e.g. address table /line of a communication channel/link/table) in order to keep track of a large number of connected devices. Dimitroff does not have to specifically the term "logical map" in the disclosure since one skilled in the art is presumed to know something about the art apart from what the references literally disclose. (See *In re Jacoby,* 309 F.2d 513, 135 USPQ 317 (CCPA 1962)). The Office notes that what a reference can be said to fairly suggest relates to the concepts fairly contained therein, and is not limited by the specific structure chosen to illustrate such concepts. (See In re Bascom, 230 F.2d 612, 109 USPQ 98 (CCPA 1956)).

Note: Dimitroff, col. 2, lines 56-col. 4, lines 1-67, teaches: " As described earlier, one aspect of the present invention includes classifying *the different capabilities of storage units 118 by establishing different standardized shared levels* (e.g., first shared level 212, second shared level 214, third shared level 216 and fourth shared level 218) *based on the specific parametrics or physical properties* of the particular storage unit 118…In addition, use of the various parametrics 240, 250, 260 and 270 *enables the hosts 106 or user to measure the "sharedness" of any one of the storage units 118, and to identify the storage units capable of evolving into a smart device.* The smart device has the capability to change or modify any of the parametrics 240, 250, 260 and 270 associated with itself….*the presence of the access parametric 250 preferably*

indicates that a particular communication protocol has enabled the respective controller 112 or 114 with the ability to read or write data from and to the corresponding storage unit 118....More specifically, the ownership parametric 270 includes a first ownership level 272 that requires the storage unit 118 to respond with a busy signal to all other hosts while communicating with one of the hosts 106....*The second management level 284 enables the hosts 106 to modify the internal parameters of the storage unit 118. The internal parameters include blocking size, mode pages, log pages, vendor unique inquiry data, error conditions and status conditions....The second ownership level 274 permits the reservation and release of the storage unit 118 by the hosts 106.*)

Dimitroff teaches establishing an address/line of a communication channel/link/table with *the specific parametrics or physical properties* of the particular storage device on the network. Each storage device has a respective controller, 112 and 114, Fig. 2, wherein the respective controller has the ability to read or write data as well as enable or disable user access to the storage devices. The Office maintains that one having ordinary skill would understand that if the storage devices are able to communicate with the Workstation/Host via the respective controllers a type of logical map (address/line of communication for the connected devices) of all the storage devices on the storage area network could be derived from information gathered and transmitted to the Workstation/Host, 108, col. 2, lines 19-55, col. 3, lines 15-54, Figs. 1, 2.

As to Appellant's arguments stating that the "hypothetical combination of the references (Blumenau and Dimitroff) would not have led to the claimed subject matter" pg. 8 of Appeal Brief, the Office respectfully disagrees. Specifically, as argued above both references (Blumenau and Dimitroff) taught features that were directed to analogous art and they were directed to the same field of endeavor, such as an information storage system and more particularly to a method and apparatus for managing storage in a storage system via formed logical maps of the storage network. It would have been obvious to one of ordinary skill in the art at the time the invention was made, to combine into the GUI system of Blumenau with the teachings of Dimitroff in order to show the security and access parameters in the graphical user interface of Blumenau. One would readily recognize that it would have been motivation for Blumenau to show the security and access parameters that would give the user recognition of (storage) areas facilitated by the formed logical map (address/line of communication for the connected devices from the established communication links) that are allowed to be viewed, managed, reassigned, or modified.

Further, Appellant is off the mark to argue that there is no suggestion to combine (hypothetical combination) the references, the Office recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one

of ordinary skill in the art. (see In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992)).

Further, Appellant did not address the reference of Suzuki with Blumenau-Dimitroff in regards to the rejection of Claim 12, therefore, the Office will assume the rejection of claim 12 based on the Blumenau-Dimitroff in view of Suzuki is valid.

Regarding Claim 13, Appellant argues on pg. 9 of Appeal Brief:

> The rejection of claim 13 was grouped with the rejection of claim 12, and the Examiner did not explain how Blumenau, Dimitroff, and Suzuki provides any teaching or hint of the subject matter of claim 13. There is nothing in these references to disclose or hint at aggregating configuration information from each of the storage system devices for the logical map that is generated by the interface manager. Therefore, the obviousness rejection of claim 13 is further defective for the foregoing reason.

The Office believes Dimitroff teaches aggregating configuration information by collecting or gathering security and access parameters information for each storage device. The gathered information will uniquely identify the connected storage devices. Further, it would have been obvious that the gathered security/access parameters would to send to the Workstation/Host so that this address information is utilized to determine where to send or communication data to the connected storage devices. (Dimitroff, col. 2, lines 1-67, col. 3, lines 66-col. 4, lines 1- 67, Col. 5, Lines 1-60).

Regarding Claim 25, Appellant argues on pgs. 10-11 of Appeal Brief:

> Independent claim 25 is also non-obvious over Blumenau, Dimitroff and Suzuki. Specifically, the hypothetical combination of references fails to disclose the following element of claim 25: receive device information relating to the storage system devices from the controllers, wherein the received device information includes at least one of numbers and types of the storage system devices operatively associated with the controllers, and capacities of the storage system devices, and generate at least one logical map based on the received device information.

As to Appellant's arguments stating the "hypothetical combination of the references (Blumenau, Dimitroff, and Suzuki) fails to disclose the following element of claim 25, the Office respectfully disagrees. Specifically, as argued above the Blumenau, Dimitroff, and Suzuki references taught features that were directed to analogous art and they were directed to the same field of endeavor, such as an information storage system and more particularly to a method and apparatus for managing storage devices in a storage system via logical maps. It would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify the system of Blumenau-Dimitroff with the teachings of Suzuki to frequently poll and monitor a change state of a selected device with a graphical user interface. One would readily recognize that it would have been motivation for Blumenau-Dimitroff to monitor the change of activities of the connected devices via frequent polling because doing so would herein and further expand the display flexibility for modifying the configurations of the storage network via a graphical user interface. The claim would have been obvious because a person of ordinary skill has good reason to pursue the known options with his or her technical

grasp. This leads to the anticipated success and is the product not of innovation but of ordinary skill and common sense.

Further, Appellant is off the mark to argue that there is no suggestion to combine (hypothetical combination) the references, the Office recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. (see In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992)).

Further regarding Claim 25, Appellant argues on pgs. 10-11 of Appeal Brief:

> As purportedly disclosing the claimed subject matter conceded by the Examiner to be missing from Blumenau, the Examiner cited Dimitroff. *Id.* at 7. The Examiner stated that "Dimitroff clearly discloses wherein the received device information includes at least one of numbers and types of storage system devices," citing specifically to column 2, line 35 – column 3, line 14. This cited passage of Dimitroff refers to a storage system that includes more than one type of storage unit located within a computer system. Dimitroff, 2:46-51. The cited passage also notes that the different types of storage units can have the same parametrics or shared levels. *Id.,* 2:66-3:3. However, nowhere in this passage of Dimitroff is there any hint that at least one of numbers and types of the storage system devices, and capacities of the storage system devices, can be used for generating a logical map, as recited in claim 25. The rejection also referred to column 5, lines 45-67, of Dimitroff. The cited column 5 passage refers to intelligent controllers using a protocol to communicate with an attached storage unit. The cited column 5 passage of Dimitroff also notes that the intelligent controller includes time availability, capacity availability, and performance

> availability capabilities. However, nowhere is there any hint here that at least one of numbers and types of the storage system devices, and capacities of the storage system devices, can be used for generating a logical map, as recited in claim 25.

As to Appellant's argues regarding the Dimitroff nowhere hinting that at least one of numbers and types of the storage system devices, and capacities of the storage system devices, can be used for generating a logical map. The Office previously rejected above that Dimitroff clearly discloses wherein the received device information includes at least one of numbers and types of storage system devices (tape library, hard drives, optical drives, multi-media drive, etc, col. 2, lines 45-65, col. 3, lines 15-54) connected to the controllers. As to the capacities of storage system, Dimitroff discloses "The intelligent controllers 114 use a protocol (e.g., in-band communication) to communicate with the attached storage unit 118.... The capacity availability capability enables the intelligent controller 114 to determine the amount of media currently available in the storage unit 118. And, the intelligent controller 114 having the performance availability capability is able to dynamically control the data transfer rate or data stream control such that other hosts 106 contending for access to the storage unit 118 are not starved", col. 5, lines 45-67.

The Office believes Dimitroff's process of gathering information about 1) the numbers of types of storage system devices that includes a plurality of tape libraries, hard drives, optical drives, and multi-media drive, etc and 2) the capacities of each of these storage devices, wherein this information is collected by an associated controller

and relied to other hosts 106 on the storage system implicitly describes the formation of a type of logical map (e.g. address/line of a communication channel of each connected storage device as well as the capacities of each storage device on the storage system). Dimitroff does not have to specifically the term “logical map” in the disclosure since one skilled in the art is presumed to know something about the art apart from what the references literally disclose. (See *In re Jacoby,* 309 F.2d 513, 135 USPQ 317 (CCPA 1962)). The Office notes that what a reference can be said to fairly suggest relates to the concepts fairly contained therein, and is not limited by the specific structure chosen to illustrate such concepts. (See In re Bascom, 230 F.2d 612, 109 USPQ 98 (CCPA 1956)).

Further regarding Claim 25, Appellant argues on pgs. 11 of Appeal Brief:

> Moreover, although the rejection of claim 25 is purportedly over Blumenau, Dimitroff, and Suzuki, the Examiner did not provide any explanation regarding how Suzuki applies to claim 25. It is clear that the hypothetical combination of Blumenau, Dimitroff, and Suzuki would not have disclosed or hinted at the claimed subject matter. Moreover, in view of the fact that the references do not provide any hint of generating a logical map based on received device information that includes at least one of numbers and types of storage system devices operatively associated with controllers, and capacities of the storage system devices, it is respectfully submitted a person of ordinary skill in the art would not have been prompted to combine the teachings of Blumenau, Dimitroff, and Suzuki to achieve the claimed subject matter. Therefore, the obviousness rejection of claim 25 and its dependent claims is in error.

As noted above, the Office believes that Blumenau and Dimitroff (col. 2, lines 56-col. 3, lines 1-22) would obviously monitor the devices connected to the system in order to further modify the logical map. Nonetheless, Suzuki clearly discloses frequently polling the connected devices on a storage network (Fig. 8a/8b) and displaying and monitoring a change state of a selected device. (Suzuki, col. 3, lines 40-col. 5, lines 1-42) Please note the rejections above regarding the combination of the references of Blumenau, Dimitroff, and Suzuki as to a method and apparatus for managing storage devices in a storage system via logical maps.

Further, Appellant is off the mark to argue that there is no suggestion to combine the references, the Office recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. (See In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992)).

In this case, the applicant argues that “it is respectfully submitted a person of ordinary skill in the art would not have been prompted to combine the teachings of Blumenau, Dimitroff, and Suzuki to achieve the claimed subject matter;“ however, Appellant is directed to the above rejections regarding the combination of the references of Blumenau, Dimitroff, and Suzuki as to a method and apparatus for managing storage

devices in a storage system via logical maps and specifically, in regards to the Suzuki reference is directed to the combination of claim 25 and claim 33 of Appellant's claimed invention wherein Suzuki clearly discloses frequently polling the connected devices on a storage network (Fig. 8a/8b) and displaying and monitoring a change state of a selected device.

Regarding Claims 28, 32, and 36, Appellant did not address the rejection of claims 28, 32, and 36, therefore the Office will assume the rejections of these claim are valid.

Regarding Claim 33

> Appellant argued on pg. 12 of Appeal Brief that "claim 33 depends from claim 25, and is therefore allowable for at least the same reasons as corresponding claim 25. Moreover, with respect to the rejection of claim 33, the Examiner referred to the rejection of claim 12. 04/17/2009 Office Action at 8. For reasons stated above with respect to claim 12, claim 33 is further allowable over Blumenau, Dimitroff, and Suzuki. Reversal of the final rejection of the above claim is respectfully requested.

The Office noted to Appellant that the previous rejection for claims 12 and 25 is found with the combination of Blumenau-Dimitroff and in view of Suzuki and specifically in regards to claim 33. Suzuki teaches the limitation of claim 33 that states monitoring a change state of a selected device and in response to the change, modify the at least one logical map. (col. 3, lines 40-col. 5, lines 1-42)

Regarding Claim 39

> Appellant argued on pg. 12 of Appeal Brief that "claim 39, which depends from claim 12, is allowable for at least the same reasons as claim 12. Moreover, claim 39 further recites that the received device information includes at least one of numbers and types of the storage system devices operatively associated with the interface controllers, and capacities of the storage system devices. For reasons similar to those stated above with respect to claim 25, claim 39 is further allowable over Blumenau, Dimitroff, and Suzuki. Reversal of the final rejection of the above claim is respectfully requested.

As to Appellant's argues Dimitroff clearly discloses wherein the received device information includes at least one of numbers and types of storage system devices (tape library, hard drives, optical drives, multi-media drive, etc, col. 2, lines 45-65, col. 3, lines 15-54) connected to the controllers 112 or 114. As to the capacities of storage system, Dimitroff discloses "The intelligent controllers 114 use a protocol (e.g., in-band communication) to communicate with the attached storage unit 118.... The capacity availability capability enables the intelligent controller 114 to determine the amount of media currently available in the storage unit 118. And, the intelligent controller 114 having the performance availability capability is able to dynamically control the data transfer rate or data stream control such that other hosts 106 contending for access to the storage unit 118 are not starved", col. 5, lines 45-67.

Regarding Claims 40 and 41

> Appellant argued on pg. 13 of Appeal Brief that "claim 40 depends from claim 39, and is therefore allowable for at least the same reasons as claim 39. Moreover, claim 40 further recites that the received device information further includes connection types of the storage system devices, and permissions associated with the storage system devices. With respect to claim 40, the Examiner cited the following passages of Dimitroff: column 2, line 35 - column 3, lines 1-14; column 5, lines 45-67. Although reference is made to different types of storage units in the cited passage in columns 2 and 3, there is no hint here of connection types of storage system devices, where the connection types of the storage system devices are part of the received device information from which the logical map is generated. Moreover, the cited column 5 passage refers to intelligent controllers using a protocol to communicate with an attached storage unit. The cited column 5 passage of Dimitroff also notes that the intelligent controller includes time availability, capacity availability, and performance availability capabilities. There is absolutely no hint in this passage of Dimitroff of using connection types of storage system devices and permissions associated with storage system devices to generate a logical map, as recited in claim 40. Claim 40 is further allowable over the cited references for the foregoing reason. Reversal of the final rejection of the above claim is respectfully requested. Claim 41 depends from claim 25, and is therefore allowable for at least the same reasons as claim 25. Moreover, claim 41 is also further allowable for similar reasons as stated above with respect to claim 40. Reversal of the final rejection of the above claim is respectfully requested.

Appellant argued on pg. 8 of the Appeal Brief that "The column 3 passage of Dimitroff cited by the Office describes the access parametric and the availability parametric. The access parametric includes different access levels, and the availability parametric indicates the conditions under which the storage unit are available to be accessed. *Id.,*3:33-58.

The Office noted that Dimitroff (col. 2, lines 56-col. 4, lines 1-67) teaches: " As described earlier, one aspect of the present invention includes classifying *the different capabilities of storage units 118 by establishing different standardized shared levels* (e.g., first shared level 212, second shared level 214, third shared level 216 and fourth shared level 218) *based on the specific parametrics or physical properties* of the particular storage unit 118…In addition, use of the various parametrics 240, 250, 260 and 270 *enables the hosts 106 or user to measure the "sharedness" of any one of the storage units 118, and to identify the storage units capable of evolving into a smart device.* The smart device has the capability to change or modify any of the parametrics 240, 250, 260 and 270 associated with itself….*the presence of the access parametric 250 preferably indicates that a particular communication protocol has enabled the respective controller 112 or 114 with the ability to read or write data from and to the corresponding storage unit 118*….More specifically, the ownership parametric 270 includes a first ownership level 272 that requires the storage unit 118 to respond with a busy signal to all other hosts while communicating with one of the hosts 106….*The second management level 284 enables the hosts 106 to modify the internal parameters of the storage unit 118. The internal parameters include blocking size, mode pages, log pages, vendor unique inquiry data, error conditions and status conditions….The second ownership level 274 permits the reservation and release of the storage unit 118 by the hosts 106.*)

The Office disagrees with Appellant that there is "absolutely no hint in this passage of Dimitroff of using connection types of storage system devices and permissions associated with storage system devices to generate a logical map, as recited in claim 40," because Dimitroff specifically teaches the process of gathering information about 1) the numbers of types of storage system devices that includes a plurality of tape libraries, hard drives, optical drives, and multi-media drive, etc and 2) the capacities of each of these storage devices, and 3) specific parametrics/parameters (claimed by Appellant as permission) or physical properties of each storage device is connected and the parametric/parameters indicates that a particular communication protocol has enabled the respective controller 112 or 114 the ability to read or write data from and to the corresponding storage device. Further, in the disclosure since one skilled in the art is presumed to know something about the art apart from what the references literally disclose. (See *In re Jacoby,* 309 F.2d 513, 135 USPQ 317 (CCPA 1962)). The Office notes that what a reference can be said to fairly suggest relates to the concepts fairly contained therein, and is not limited by the specific structure chosen to illustrate such concepts. (See In re Bascom, 230 F.2d 612, 109 USPQ 98 (CCPA 1956)).

This information that is gathered by elements 1-3 above is obviously relied to hosts (106) on the storage system; therefore, it would have been obvious to one of ordinary skill that at the time the invention was made that Dimitroff's process of gathering information from the connected storage devices implicitly describes the

formation of a type of logical map utilized by the host for communication with the storage devices on the system network.

Regarding Claims 38 and 42

> Appellant argued on pg. 13-14 of Appeal Brief that "The Examiner conceded that Blumenau, Dimitroff, and Suzuki fail to disclose that the state of the storage system devices includes one or more of: a storage system device being taken offline, or a storage system device being re-cabled. Note that the phrase "state of the storage system devices" is used in the context of the following elements of base claim 33: wherein the at least one control element is configured to further: monitor for a change in a state of the storage system devices; and in response to the change, modify the logical map. There is absolutely no hint whatsoever of a control element monitoring for a change in a state of the storage system devices that includes one or more of a storage system device being taken offline, or a storage system device being re-cabled, in Blumenau, Dimitroff, and Suzuki. The reliance on AAPA as providing purported support for the obviousness rejection is misplaced. The background of the present application notes that if a physical layout change *(e.g., a* drive is taken offline), the network administrator has to manually update the logical map. Specification, page 2,[0004]. Thus, the AAPA would have led a person of ordinary skill in the art away from use of a control element configured to monitor for such change in the state of the storage system devices, and in response to the change, modify the at least one logical map. In view of the foregoing, the obviousness rejection of claim 42 is further defective for the foregoing reason. Reversal of the final rejection of the above claim is respectfully requested.

The Offices does not necessarily disagree with Appellant regarding the use of AAPA in the rejection of Blumenau, Dimitroff, and Suzuki. First, Applicant's claims are extremely broad and are presented in alternative language requiring one "or" the other be found not necessarily both. The Appellant claims states wherein the state of the

storage system devices includes one or more of: a storage system device being taken offline, **or** a storage system device being re-cabled. In order to overcome this limitation, the Office used AAPA because it disclosed that one way of monitoring a change of state on connected storage devices on a network is an instance where the storage device is taken offline and because of this the physical layout (logical map) is/was changed.

The Office used the Suzuki process of monitoring any change of state on storage devices on the system network. Suzuki specifically teaches "FIG. 7 shows an example of a screen image in the line detail window. A line detail view 701 is displayed in a window 700. The line detail view 701 displays a state of a selected connection line and information about ports at both ends of the selected connection line. **Each display 711 or 712 shows the case where the connection line connecting Switch 1 (311) and Server 3 (303) is double-clicked.** The display 711 shows the case of a display from a view with a specified zone which will be described later. In the display 711, symbols belonging to the zone are highlighted**. The display 712 shows the case where consistency *(The Office notes that consistency would obviously include the data consistency between the Switch1 and Server3, See Fig. 7 of Suzuki)* is lost due to an error in definition or the like.** In the display 712, the connection line is indicated by the broken line. (col. 4, lines 43-55)

One of ordinary skill would readily recognize at the time the invention was made, to modify the system of Blumenau-Dimitroff-Suzuki that in combination already teaches automatically updating a logical map of devices connected on a network with the

teachings of AAPA that notes that a physical layout on a storage network can change if a drive is taken offline. Specifically, the Suzuki embodiment teaches of frequently polling and monitoring for changes of selected devices with a graphical user interface. One would readily recognize that it would have been motivation for Blumenau-Dimitroff-Suzuki to automatically update the logical map of the storage system if a storage device (drive) is taken offline thereby adding and expanding the flexibility of the Blumenau-Dimitroff-Suzuki graphical user interface without departing from the inventive concept. (See In re Jacoby, 309 F.2d 513, 135 USPQ 317 (CCPA 1962)). . Further, the Office notes that what a reference can be said to fairly suggest relates to the concepts fairly contained therein, and is not limited by the specific structure chosen to illustrate such concepts. (See In re Bascom, 230 F. 2d 612, 109 USPQ 98 (CCPA 1956)) "The conclusion of obviousness may be made from common knowledge and common sense of a person of ordinary skill in the art without any specific hint or suggestion in a particular reference." *(In re Bozek,* 416 F.2d 1385, 163 USPQ 545 (CCPA 1969))

Regarding Claim 18

Appellant argues on pg. 15 that “claim 18 is a dependent claim of independent claim 12. Claim 18 was rejected as purportedly obvious over Blumenau, Dimitroff and Yung. However, it is noted that the Examiner had relied upon Suzuki as providing a teaching of the "monitoring" and "modifying" elements of claim 12. The Examiner did not provide any explanation regarding how Yung discloses the

> "monitoring" and "modifying" elements of claim 18 (which incorporates the subject matter of base claim 12). In view of the concession that Blumenau and Dimitroff fail to disclose these elements, it is clear that the rejection of claim 18 is erroneous. Reversal of the final rejection of the above claim is respectfully requested.

In the Final Office action dated 4/17/09, the Examiner wrote on pg. 11 "Applicant arguments filed 1/29/09 with respect to Yang in combination with Blumenau-Dimitroff (and Suzuki, claim 18) have been fully considered but they are not persuasive." It was an oversight by the Office to omit the Suzuki reference in the list of claims in the Final Office action dated 4/17/09. However, as stated above, the Office did add the Suzuki reference in the explanation of the combination of Blumenau-Dimitroff-Suzuki and Yang in order to maintain the rejection of dependent claim 18. Therein, the Office believes that the rejection of dependent claim 18 (which incorporates the subject matter of independent claim 12) should overcome Appellant argues regarding the combination of Blumenau-Dimitroff-Suzuki and Yang, therein the rejection of dependent claim 18 is maintained. Further, Blumenau discloses logical units in col. 9, lines 8-16, 39-61, Dimitroff col. 2, line 35 – col. 3, lines 1-14, and Suzuki discloses logical units in col. 4, lines 13-35, Figs. 3, 9a – 9d.

Regarding Claim 21

> Appellant argument states on pgs. 15-17, that "Independent claim 21 was rejected as being obvious over Blumenau, Dimitroff, and Yung. It is respectfully submitted that no reason existed that would have prompted a person of ordinary skill in the art to combine the teachings of Blumenau, Dimitroff, and Yung. KSR International Co. v. Teleflex, Inc., 127 S. Ct. 1727, 1741, 82 U.S.P.Q.2d 1385

(2007). While Dimitroff is related to defining standardized share levels for different storage units, and Blumenau is related to managing the availability and assignment of data in a storage system, Yung is related to providing a user interface "for relatively large biological laboratories that have many instruments of different types." Yung, Abstract. Since the teachings of Dimitroff, Blumenau, and Yung are directed to very different applications, it is respectfully submitted that a person of ordinary skill in the art would not have been prompted to combine the teachings of Dimitroff, Blumenau, and Yung to achieve the claimed invention. The Examiner argued that "Yung seeks to address the problem of a plurality of interface controllers operatively associated with the data access drives and transfer robotics." 04/17/2009 Office Action at 11. The Examiner pointed specifically to the following passages of Yung: [0008], [0011]-[0014], [0037]. The cited passage in [0008] refers to a centralized user interface for a given instrument to allow a user to monitor and control the instrument, and an interface application that uses information about the instruments to generate an instrument management graphic user interface that lists instruments available for use. The passages of [0011]-[0014] of Yung refer to biological processing instruments that include a sample storage device, a sample transferring robotics device, and other devices. Yung is directed to generating a centralized user interface for a biological laboratory having biological processing instruments to process biological samples. The interface can receive a user request for one or more biological processing instruments, or receiving a request for one or more biological samples. *Id.,* [0013], [0014]. Paragraph [0037] of Yung describes a user interface system that provides means for a user to interact with instruments and applications, and to facilitate monitoring and controlling of instruments/applications in a user-friendly graphical environment. However, these teachings of Yung are not related to an automated storage system that includes data access drives and transfer robotics, where the data access drives are to access data on data storage media, and where the transfer robotics are to transfer data storage media in the automated storage system. Nor does Yung relate to generating a logical map used by hosts to allow access of the data access drives (to access data on data storage media) and the transfer robotics

> (to transfer data storage media in the automated storage system). Thus, it is clear that a person of ordinary skill in the art would not have been prompted to combine the teachings of Dimitroff, Blumenau, and Yung. Moreover, the hypothetical combination of the references does not disclose or hint at the following feature of claim 21: the interface manager is to generate a logical map of the automated storage system based on aggregating configuration information for the data access drives and transfer robotics, wherein the logical map is used by hosts to allow access of the data access drives and the transfer robotics by the hosts. Although Yung discloses instruments that include sample storage devices and sample transfer robotics, the "sample" refers to a biological sample for biological analysis. Thus, Yung clearly does not contemplate aggregating configuration information for data access drives (that access data on storage media) and transfer robotics (that transfer data storage media in a storage system). Therefore, even if Blumenau, Dimitroff, and Yung could be hypothetically combined, the hypothetical combination would not have led to the claimed subject matter. Therefore, claim 21and its dependent claims are non-obvious over the cited references. Reversal of the final rejection of the above claims is respectfully requested.

As to Appellant arguments regarding the Yang's reference is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. (See In re Oetiker, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992))

In this case, the Appellant argues that Yung " is related to providing a user interface "for relatively large biological laboratories that have many instruments of different types." Yung, Abstract. However, one of ordinary skill in the art at the time of the invention would have appreciated the problem addressed by Yang implementation of a pipeline configuration and utilizing API generate management commands for the plurality of interface controllers; and a device manager to communicate with the plurality of interface controllers for devices on a network into Blumenau-Dimitroff's storage network system because doing so would provided improved communication with network devices using Yang's common user interface.

As to Appellant arguments regarding the Yang's does not teach data access drives and transfer robotics. The Office directs Appellant to Yung, [0054-0057] that states "FIG. 2-4 illustrates an exemplary instrument directory 2-405. Such a directory may include an instrument information 2-425 that contains information such as instrument name, physical location, type, group, publishing information, and other information useful for management of the instrument (device). The directory 2-405 may also include an instrument type provider information 2-440 that contains information about the instrument-type service provider described above in reference to FIGS. 2-1 and 2-2. The directory 2-405 may also include a list 2-430 of active instruments. The directory 2-405 may also include a storage device for storing information that facilitates various functions of the directory. The directory 2-405 is also shown to be connected to a network 2-415 so as to allow communication with other components.

Yang teaches a plurality of interface controllers operatively associated with the data access **for devices on a network** (Yung, (0008, 0011- 0014, and 0037); an interface manager communicatively coupled to each of the plurality of interface controllers, a storage system based on aggregating configuration information **for the devices on the network**. (Yung, 0011- 0014, 0055, and 0071, 0072) *and a pipeline (0049, 0050) provided as computer readable program code in computer-readable storage at the interface manager, the pipeline including: a command router to format transactions for the interface controllers; a management application program interface (API) (0037 and 0094) to generate management commands for the plurality of interface controllers; and a device manager to communicate with the plurality of interface controllers.*

The Office directs Appellant to the Dimitroff reference that discloses security and access parameters (Col. 3, Lines 15-54, Col. 4, Lines 6- 67, Col. 5, Lines 1-60) wherein Dimitroff teaches identifying the storage devices (tape library, hard drives, optical drives, multi-media drive, etc, col. 2, lines 45-65, **Appellant's claim of data access drives and transfer robotics**) on the storage area network based on device information and to receive information about the state of the storage device. (Dimitroff, col. 3, lines 66-col. 4, lines 1-35). The Examiner believes Dimitroff teaches that the identification of the devices (i.e. aggregating configuration, security, and access parameters information for each identified device) on the storage area network. Further, Blumenau discloses a storage network having a user input to deny and grant access permissions for the host

to data **access disk drives and types of transfer robotics for read or write operations**. (Blumenau: abstract; Column 17, lines 44- 60 – col. 18, lines 1-60)

Therein, the references (Blumenau and Dimitroff and Yang) taught features that were directed to analogous art and they were directed to the same field of endeavor, such as an information storage system and more particularly to a method and apparatus for managing devices on a network. Specifically, Blumenau and Dimitroff teaches **Appellant's claim of data access drives and transfer robotics** and Yang's reference discloses the pipeline configuration and utilizing API generate management commands for the plurality of interface controllers; and a device manager to communicate with the plurality of interface controllers for devices on a storage network. Further, Appellant is off the mark to argue that there is no suggestion to combine (hypothetical combination) the references, the Office recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. (see In re Fine, 837 F.2d 1071,5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992)).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer. Any copies of the court or Board decision(s) identified in the Related Appeals and Interferences section of this examiner's answer are provided herein.

For the above reasons, it is believed that the rejections should be sustained.

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